PTO 04-1869

CY=DE DATE=19751218 KIND=GEB
PN=7 527 182

VESSEL FOR COOKING OR FRYING FOODS
[Gefäß zum Kochen bzw. Braten von Speisen]

ROBERT BOSCH GMBH

UNITED STATES PATENT AND TRADEMARK OFFICE
Washington, D.C. February 2004

Translated by: FLS, Inc.

PUBLICATION COUNTRY	(19) :	DE
DOCUMENT NUMBER	(11) :	7527182
DOCUMENT KIND	(12) : (13) :	GEB PUBLISHED UNEXAMINED UTILITY MODEL
PUBLICATION DATE	(43) :	19751218
PUBLICATION DATE	(45) :	
APPLICATION NUMBER	(21) :	G7527182.8
APPLICATION DATE:	(22) :	19750828
ADDITION TO	(61) :	
INTERNATIONAL CLASSIFICATION	(51) :	A47J 36/00
DOMESTIC CLASSIFICATION	(52) :	
PRIORITY COUNTRY	(33) :	
PRIORITY NUMBER	(31) :	
PRIORITY DATE	(32) :	
INVENTOR	(72) :	
APPLICANT	(71) :	ROBERT BOSCH GMBH
TITLE:	(54) :	VESSEL FOR COOKING OR FRYING FOODS
FOREIGN TITLE	[54A]:	GEFÄSS ZUM KOCHEN BZW. BRATEN VON SPEISEN

The invention relates to a vessel for cooking and frying foods /1* with a lid and a device to display the temperature inside the vessel.

The invention is based on the objective of attaching the temperature display device on the vessel's lid in as simple a manner as possible.

In accordance with the invention, this objective is realized in that the temperature display device, preferably, is configured in the way of a knob, and arranged and attached to the [illegible text].

[TRANSLATOR'S NOTE: The paragraph on the bottom of page 1 is largely illegible and, therefore, untranslatable]

With the inventive configuration of the lid handle, the /2 utilitarian value of the vessel is substantially increased without complicating the cleaning of the pot or pan through any additional protruding and unprotected parts. The temperature of the cooked or fried food can be read off from above during and after the cooking or frying process.

The simple and sturdy design of the temperature display device results if the heat sensor is a bimetallic strip. The latter may be bent in a spiral or coil shape, whereas, in the second scenario, the coil may have two opposing coil sections, in order to prevent an axial movement of the actual indicator.

Four configuration examples of the invention are represented in the drawings.

Shown are

Figure 1, the first configuration example in a section,

---

* Number in the margin indicates pagination in the foreign text.

Figure 2, enlarged, the lid handle of the second configuration example in a section,

Figure 3, a representation of the third configuration example corresponding with Fig. 2, and

Figure 4, the fourth configuration example.

The vessel in accordance with Fig. 1 is a cooking pot (10) with a lid (11) to which a plastic handle (12) is attached. A metallic hollow nut (13) which supports itself on the inside of the lid (11) with a collar (14) serves to attach the handle (12). The hollow nut (13) is riveted on the lid and the handle (12) is screwed on the hollow nut (13).

A device to display the temperature on the inside of the cooking /3 pot is integrated in the handle (12). The heat-sensitive control element of this device is a coil-shaped, bent bimetallic strip (16) which is arranged inside a metal tube (17) with some clearance. The tube (17) is anchored in the handle (12) and, in turn, guided to the inside of the vessel through the hollow nut (13). On the bottom end of the tube (17), a metallic stopper (18) is provided to which the one end of the bimetallic strip (16) is soldered. The other end of the bimetallic strip (16) is radially bent towards the inside and firmly connected with a spindle (19) which stands in the tube's axis. The spindle (19) is guided inside a bushing (20) which is inserted into the top end of the tube (17). An indicator (21) is attached to the spindle (19) to which a temperature scale that is not visible in the drawings is assigned on a sunken annular surface (22) of the handle (12). A sight screen (23) covering the temperature

scale is provided over the indicator (21), in order to protect the display device.

The bimetallic strip (16) is in a direct heat-conductive connection with the inside space of the cooking pot (10) via the metallic stopper (18). As the temperature of the cooked food and the steam above it increase, the bimetallic strip (16) is increasingly deformed. In this process, its bottom end is held on the stopper (18) while its top end appropriately shifts the indicator (21) via the spindle (19). The temperature can easily be read off through the sight screen (23). The clearance between the tube (17) and the hollow nut (13) forms an air gap (24) which largely prevents the flow of heat from the tube (17) and the stopper (18) to the sheet metal part of the lid (11). This ensures that the temperature display for the cooked food is not adulterated by the temperature of the vessel's lid.

In the configuration example according to Fig. 2, the handle (12) is attached to the lid (11) with a head screw (23), the flat screw /4 head (29) of which is arranged in the handle in sunken fashion. A cap nut (30) which supports itself on the inside on the lid (11) via a washer (31) that is made of a heat-insulating material is screwed on the head screw (28). Here, the heat-sensitive control element of the temperature display device is a spiral-shaped bimetallic strip (32) which is arranged directly over the screw head (29), and which is exposed to its radiated heat. An indicator (33) to which a temperature scale is assigned on an annular surface (34) of the handle (12) is attached on the outside end of the bimetallic strip (32). The inside end of the bimetallic strip

(32) is stationarily held on a pin (35) which consists of a piece with a sight screen (36).

In the configuration example according to Fig. 3, a metal bushing (40), which, on its bottom, is equipped with a thin-walled cylindrical shoulder (41) with a floor (42), and, on its top, is equipped with a threaded bore (43), into which the metal hub (44) of a handle (45) is screwed, is riveted into the lid (11). With its bottom front edge (46), the handle (45) rests on a plastic washer (47) which is shaped in such a way that only its outer edge (48) touches the lid (11). When the handle (45) is fully screwed into the bushing (40), the plastic washer (47) is resiliently chucked in, so that it is held in a frictional fit between the lid (11) and the handle (45).

A bimetallic strip (30) which is bent in the shape of a coil, which is surrounded by a thin-walled tube (51) that sits so that it fits in the shoulder (41) of the bushing (40), is provided as a heat-sensitive control element of the temperature display device. The bottom end of the bimetallic strip (50) is connected with a metallic stopper (52) which touches the bottom (42) of the bushing (40). Via a spindle (53), the upper end of the bimetallic strip (50) is connected with an indicator (54) that is movable via an inserted temperature scale plate (55) that is attached in the metallic hub (44) of the handle (45) and which centers the indicator (54) in relation to the scale plate (55).

As in the previously described example, the indicator and scale /5
plate are covered by a sight screen (57).

The plastic washer (47) prevents contact with the potentially hot lid (11) when the handle (45) is touched. At the same time, the heat flow in the area of the lid (11) that is covered by it is somewhat inhibited by the plastic washer (47), so that - as in the configuration example - a heat-insulating intermediate space between the lid (11) and the control element (50) can be eliminated. However, such an intermediate space can also be created with this example if a tube (51) is used which consists of plastic with appropriate characteristics, and the shoulder (41) of the bushing (40) is configured without a floor (42), so that the metallic stopper (52) of the bimetallic strip (50) is in a direct heat-conductive connection with the inside space of the cooking pot.

To a large extent, the configuration example according to Fig. 4 corresponds with the example according to Fig. 3. However, here, the tube (51) surrounding the bimetallic strip (50) is guided in a passageway (60) of the lid (11) and in a shoulder-less bushing (61) which is soldered to the outside of the lid (11) over the passageway.

Claims: /6

1. Vessel for cooking or frying foods, with a lid and a device to display the temperature inside the vessel, characterized in that the temperature display device (16, 21 or 32, 33) is arranged and attached in the handle (12) of the lid (11), which, preferably, is configured in the shape of a knob.

2. Vessel in accordance with Claim 4, characterized in that the heat sensor (16 or 32) of the temperature display device is a bimetallic strip.

3. Vessel in accordance with Claim 2, characterized in that the bimetallic strip (32) is bent in the shape of a spiral (Fig. 2).

4. Vessel in accordance with Claim 2, characterized in that the bimetallic strip (16) is bent in the shape of a coil (Figs. 1, 3, 4).

5. Vessel in accordance with Claim 3, characterized in that the handle (12) is attached to the lid by means of a head screw (28), the screw head (29) of which is sunken and arranged directly under the bimetallic strip (32) in the handle (Fig. 2).

6. Vessel in accordance with Claim 5, characterized in that the head screw (28) is assigned a cap nut (30) which supports itself on the lid (11) via a washer (31) that is made of a material of low heat conductivity (Fig. 2).

7. Vessel in accordance with Claim 4, characterized in that a /7 tube (17), which projects into the inside of the vessel and which surrounds the coil-shaped bent bimetallic strip (16), is inserted in the handle (12) of the lid (11) (Fig. 1).

8. Vessel in accordance with Claim 7, characterized in that, to attach the handle (12) to the lid (11), a hollow nut (13) is of service through which the tube (17) passes with some clearance (24) (Fig. 4).

9. Vessel in accordance with Claim 2, characterized in that a plastic washer (47) is provided between the handle (45) and the lid (11), the outside diameter of which is larger than the largest outside diameter of the handle (45), and which, at least, with its outside edge (48), rests on the lid (11) (Figs. 3 and 4).

10. Vessel in accordance with Claim 9, characterized in that a bushing (44) is riveted on the lid (11) to which the handle (45) is attached and which has a shoulder (41) that projects into the inside of the pot in which the bimetallic strip (50) is arranged surrounded by a thin-walled tube (51) (Fig. 3).

11. Vessel in accordance with Claim 9, characterized in that, to hold the bimetallic strip (50) or a tube (51) surrounding this strip, a bushing (61) which is attached to the top side of the lid (11) and a passageway (60) of the lid that is arranged under it are provided.

Fig. 1

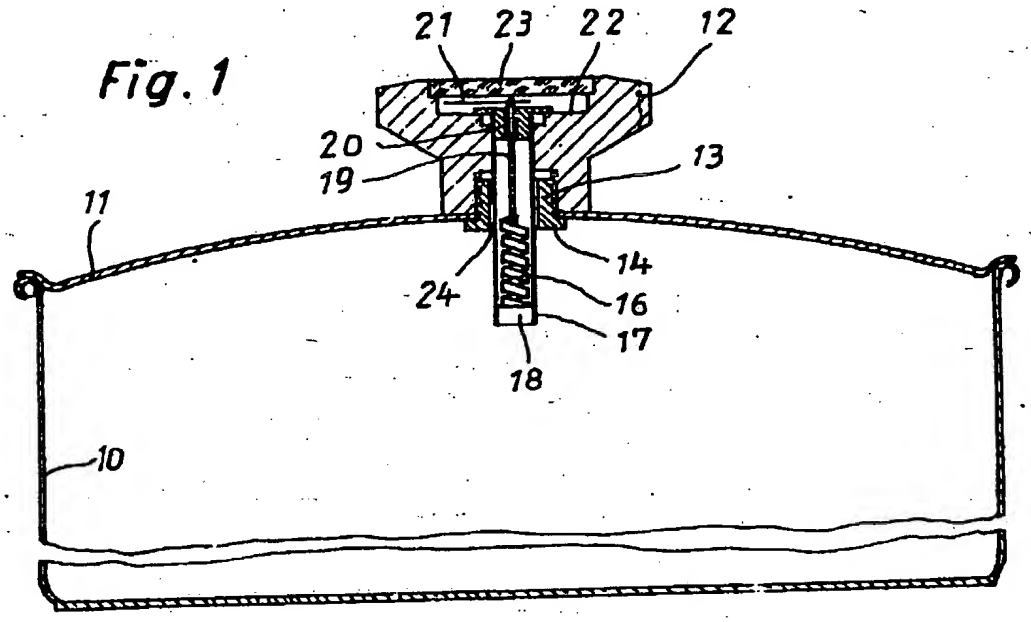

Fig. 2

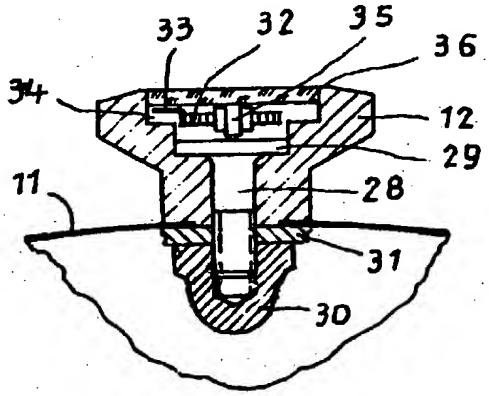

Fig. 3

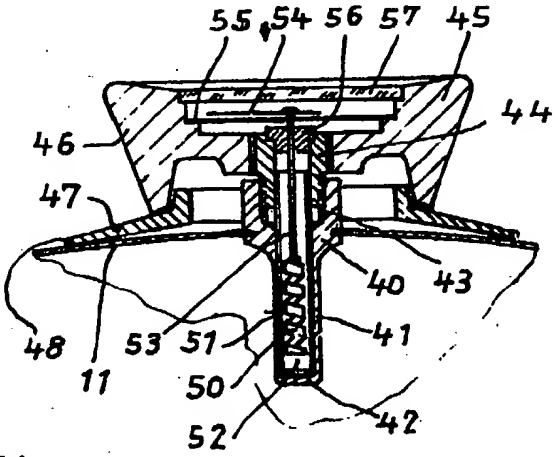

Fig. 4